



WALRUS



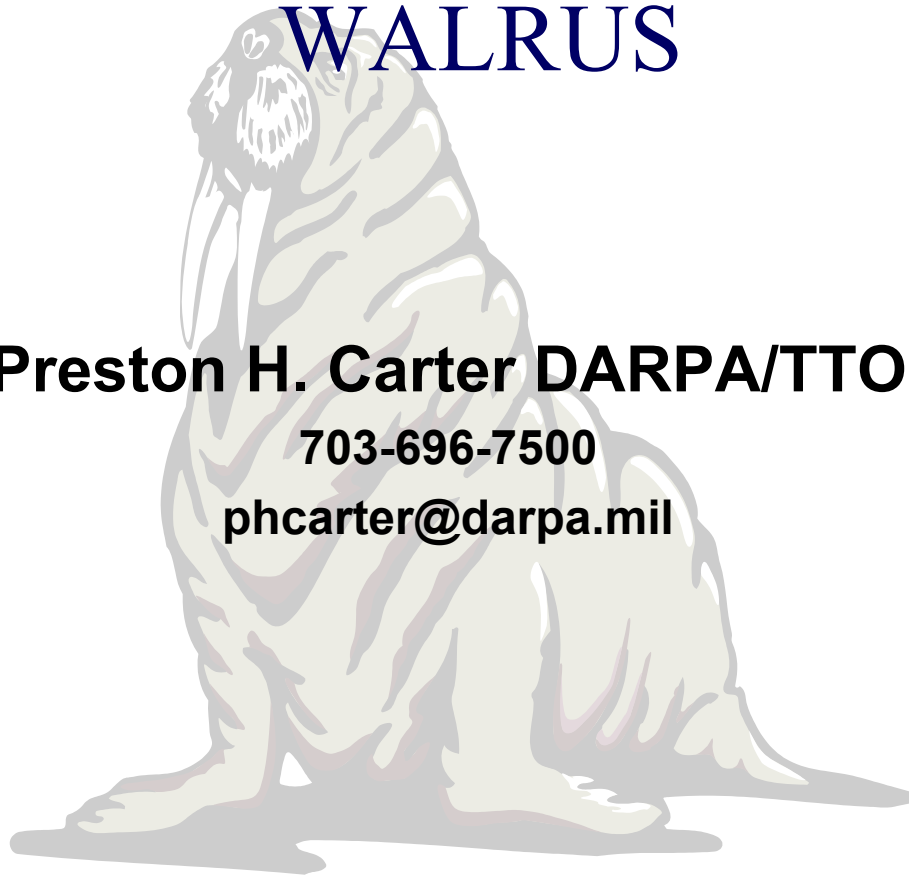
"From Fort to Fight"

WALRUS

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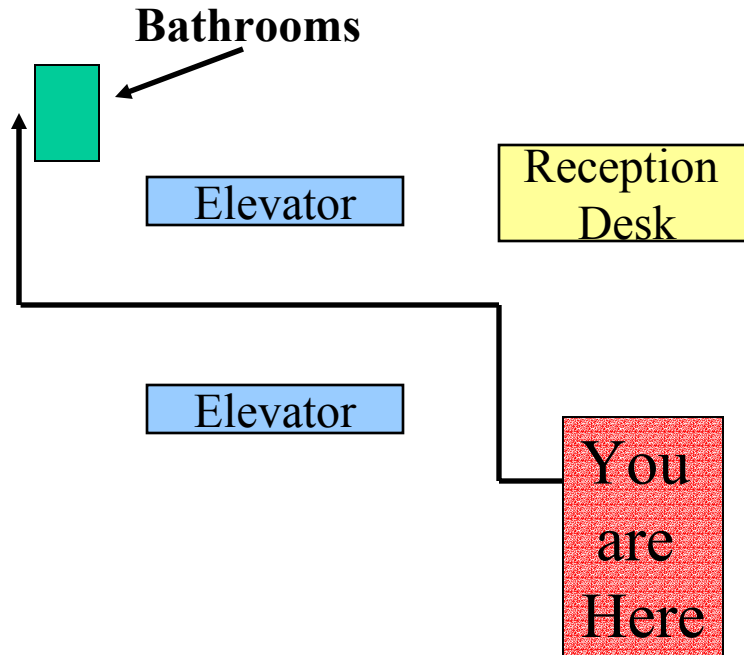


Domestics

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Bathrooms:



Cell Phones:

Only on Vibrate, Please

Lunch:

We will break for Lunch for 2 hours

A list of area Restaurants w/ directions will be provided

Attendance List:

Details will be considered Public Information

Please Note:

**Solicitation, Technical and Evaluation Information Provided Herein
Subject to Change Prior to Final RFP Release.**

Approved for Public Release, Distribution Unlimited



AGENDA

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- 8:30 Check In and Registration**
- 9:30 Welcome & WALRUS Program Overview (Program Manager)**
- Agenda Review
 - DARPA and TTO Charter
 - Program Motivation
 - Vision
 - Military Service Involvement
- 10:00 Acquisition Strategy (Government Team)**
- Program Plan (all phases)
 - Program Schedule \$ Events, Funding
 - Near Term Program Events
- 10:30 Introduction of Participants and Break**
- Sign-up for One-on-One with Government Team
- 11:00 OT Section 845 Briefing (Charles Nurse, CMO)**
- 11:15 Program Solicitation (Phase I) Overview (PM, CMO)**
- Questions and Answers
- 12:00 Lunch (2 hour break)**
- Teaming opportunity
 - Sign up sheet reminder
- 2:00–5:00 One-on-One Sidebar Meetings (Government Team)**
- 15 Minute Sessions
- 2:00–5:00 Break**
- Open Time for Teaming Discussions among Participants
- 5:00 Closing Remarks (Program Manager)**
- 5:15 - Social Gathering at Car Pool (N Fairfax Drive 1 block walk)**



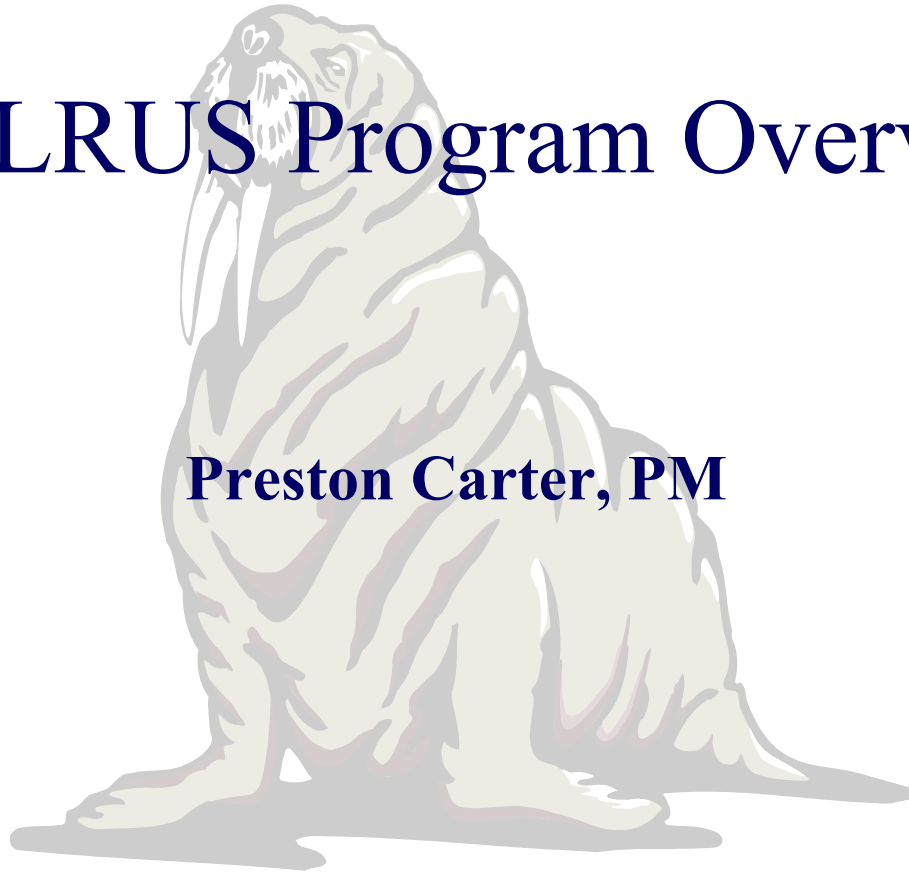
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"From Fort to Fight"

WALRUS Program Overview

Preston Carter, PM



The Airship Domain

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First Age of Airships - Rigid

- Hydrogen buoyancy
- Lightweight materials - Duralumin
- Military & commercial utility
- Zeppelin

Second Age of Airships - Non-Rigid

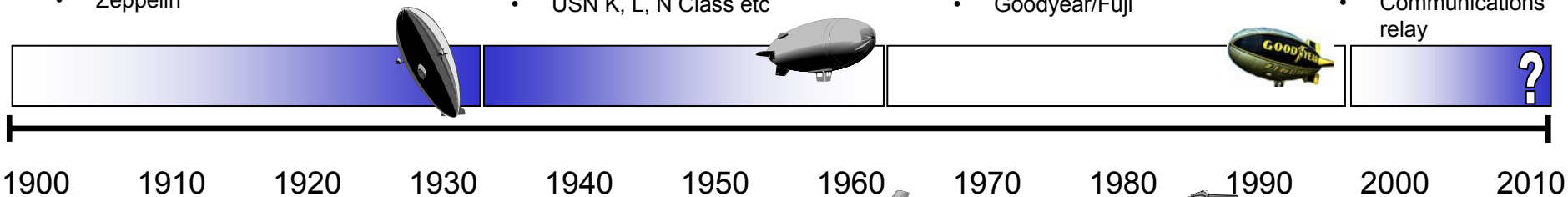
- Helium buoyancy
- Lower cost materials - Fabrics
- Military utility
- USN K, L, N Class etc

Third Age of Airships - Blimps

- Helium buoyancy
- Small
- Commercial advertising
- Goodyear/Fuji

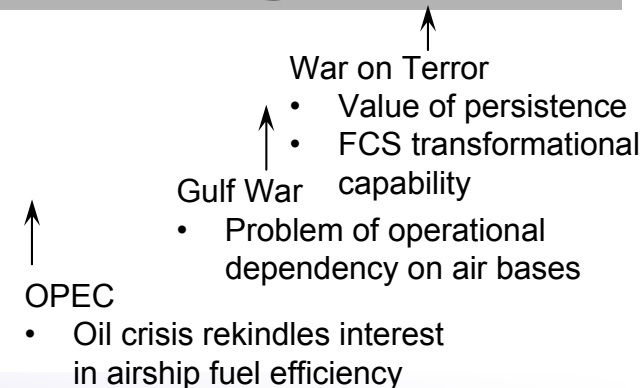
Modern Airship Investment

- Technology TBD
- Heavy Lift
- Communications relay



Ascendancy of Aircraft

- Independent of weather (essentially)
- Reliability (e.g. high power to weight engines)
- Performance envelope (e.g. speed, range, altitude etc)
- Availability of new materials (e.g. lightweight & high temp.)
- Broad military mission spectrum and commercial utility and overall operating flexibility (but airfield dependency)
- Large fleet size – non-recurring cost amortization
- Inexpensive fuel



Airships

- Remain technically and economically feasible for niche missions
- Generally, designed to lower altitude operations
- Highly dependent on weather – most airship failures related to adverse weather conditions and altitude control
- Early reliability and safety (Graf Zeppelin – 1 million miles, zero casualties) matched by aircraft
- Numbers have always been relatively small – high non-recurring costs not easily amortized (CL160 bankruptcy)
- Ground operations can be challenging



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Unit of Action Heavy Lift Air Vehicle

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• Program Objectives:

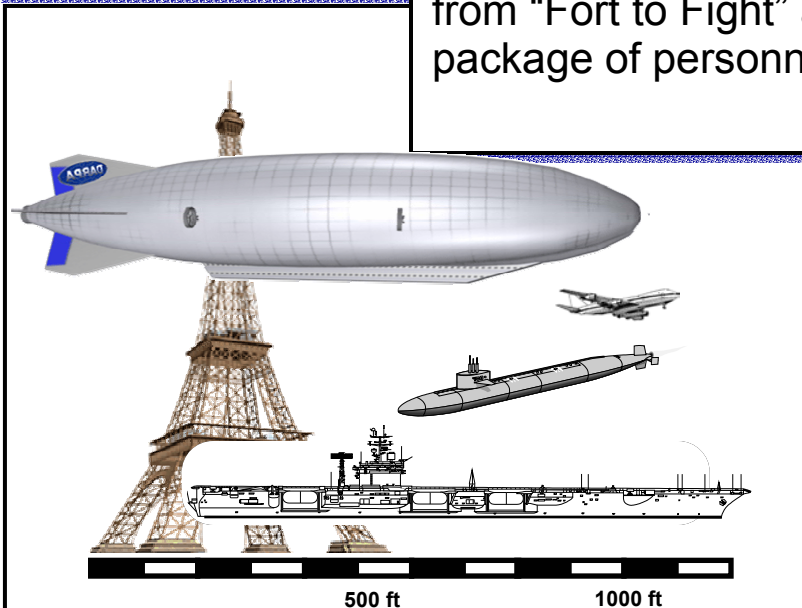
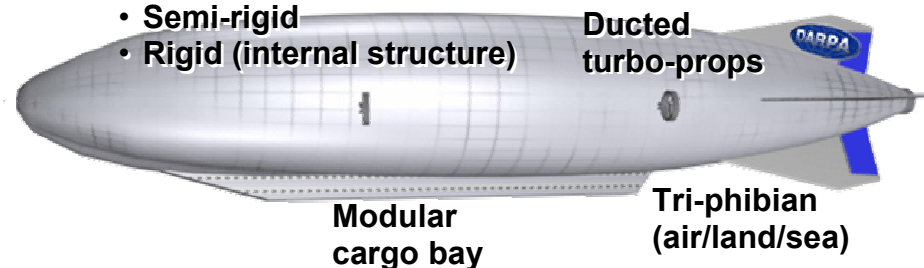
- Strategic airlift, direct / intra-theater insertion and sustainment of a "Unit of Action" (UA)
- Prove the feasibility and viability of the concept, develop an objective air vehicle design and transition the ATD vehicle to the services for military utility testing and experimentation

• Concept:

- A large lifting airship able to transport a UA from "Fort to Fight" as a complete integrated package of personnel and equipment

Body Design Options:

- Non-rigid (inflated)
- Semi-rigid
- Rigid (internal structure)



• Technical Challenges:

- Uncharacterized performance regimes
 - Use both static (helium) and dynamic (aero) lifting in flight
- Structural integrity issues
- Flying qualities – launch/recovery issues
- Operating practicality

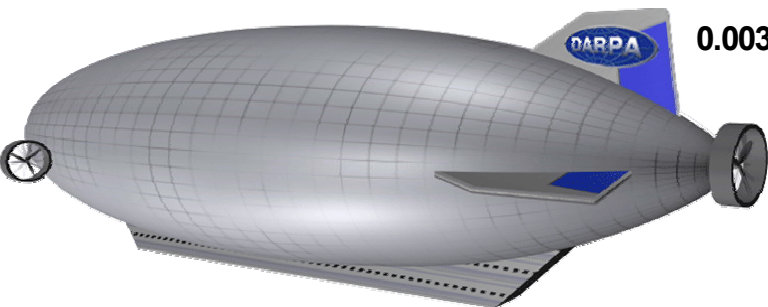
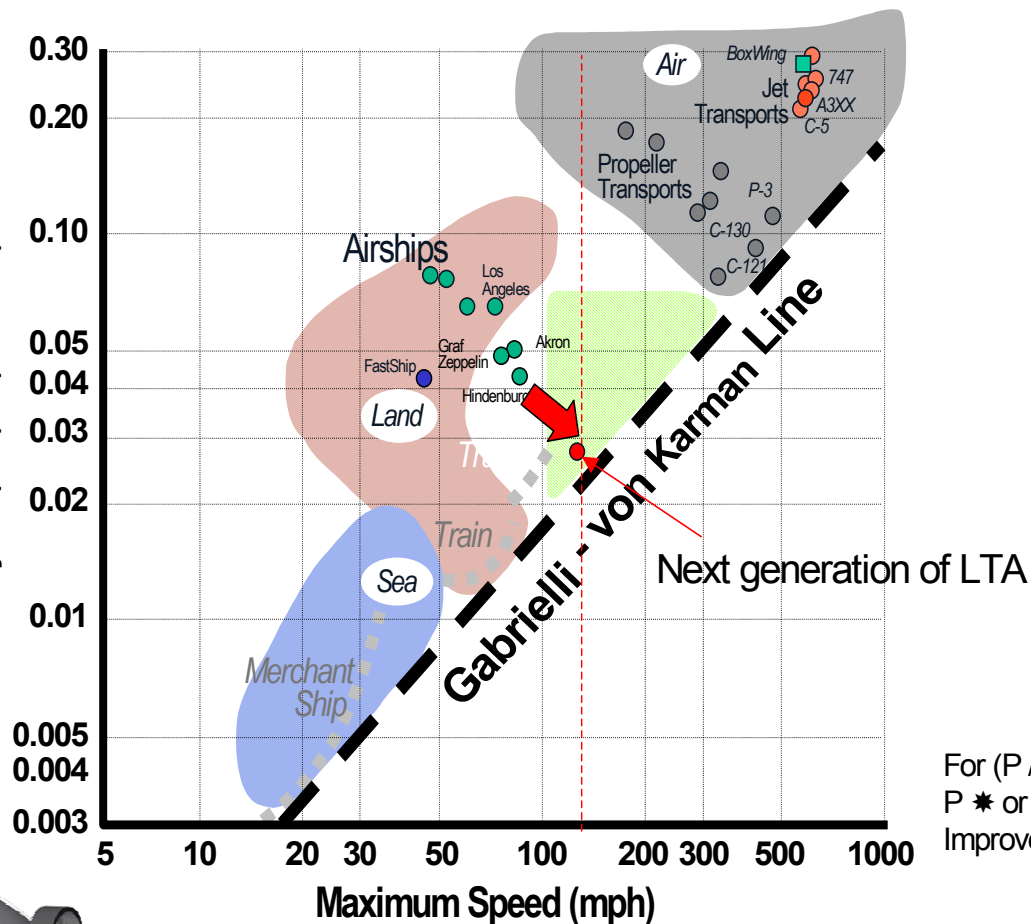
Program Status:

RFP will be issued May 2004

Strategic Force Mobility

- 500-1000 ton usable payload
- 6,000 nm range
- Reduction in deployment time
- Increased efficiency in cargo transport
- Global reach from CONUS
- 96 hours battle ready unit-of-action deployment

Power, P (lbf. ft/s), Weight, W (lbs)
Velocity, V (ft/s) – $(P / W * V)$

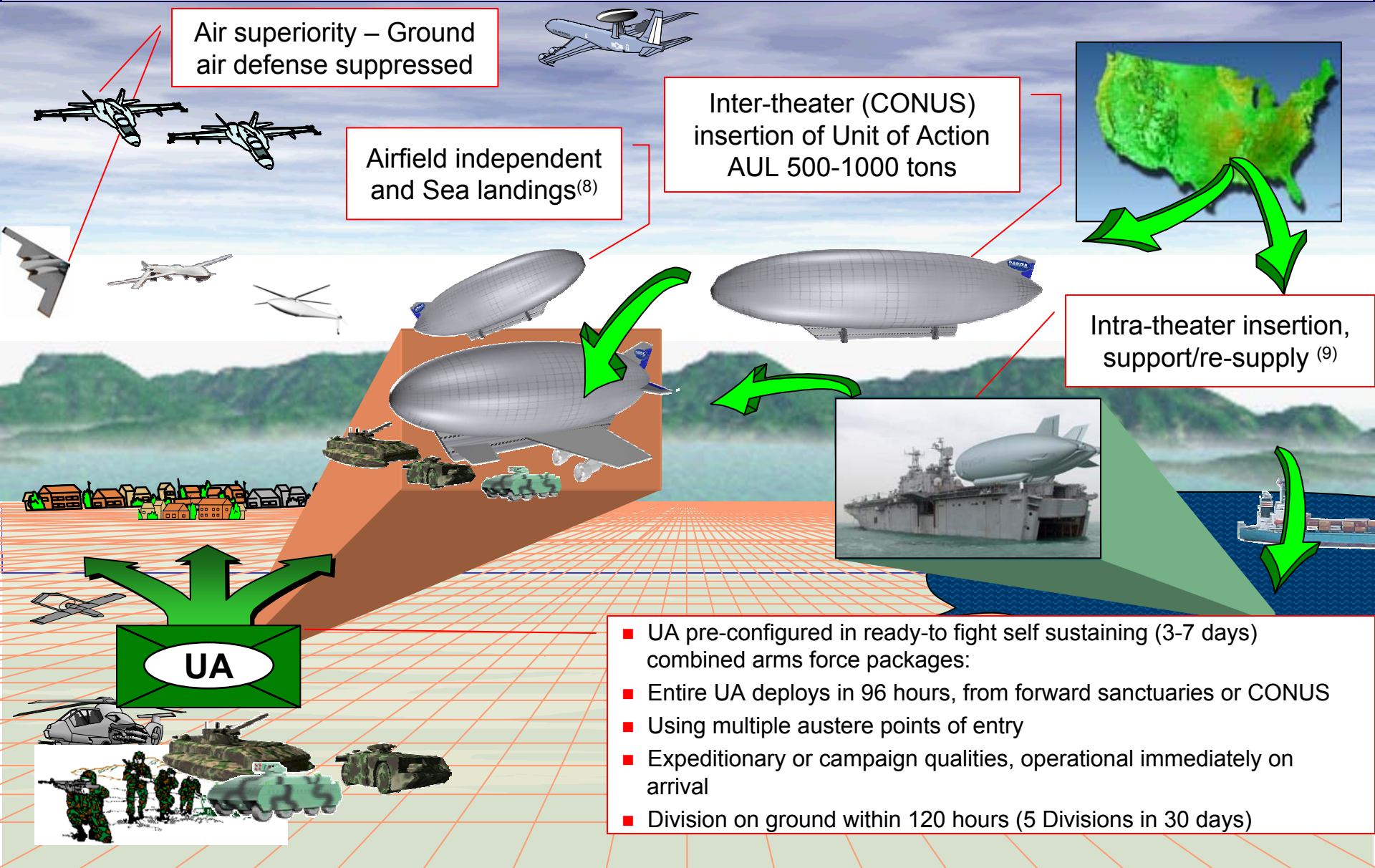




CONOPS – Unit of Action Insertion



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Thinking Out of the Box



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■ Prior Art:

- Rigid Airships
- Non-Rigid Airships
- Semi-rigid - Metal Clad Airships
- Recent Projects

■ Advancement of Enabling Technology:

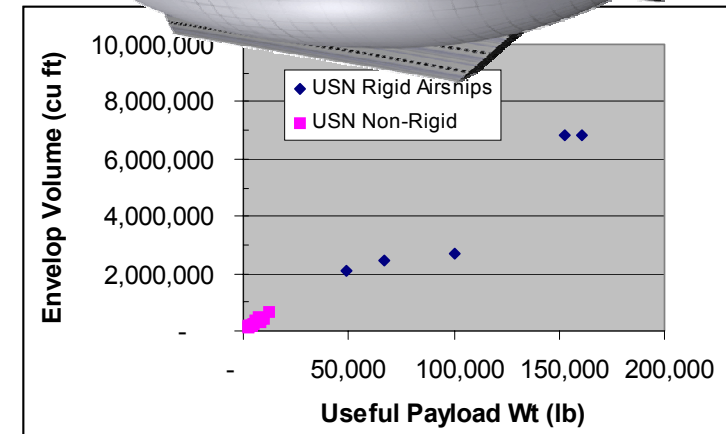
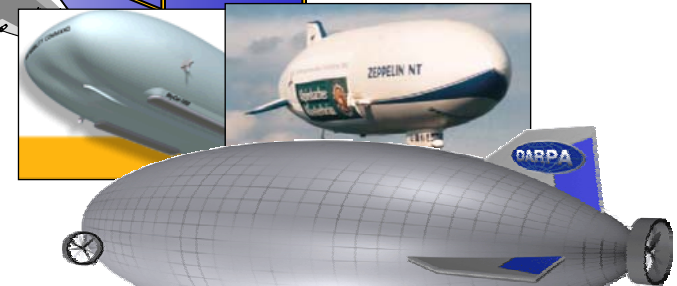
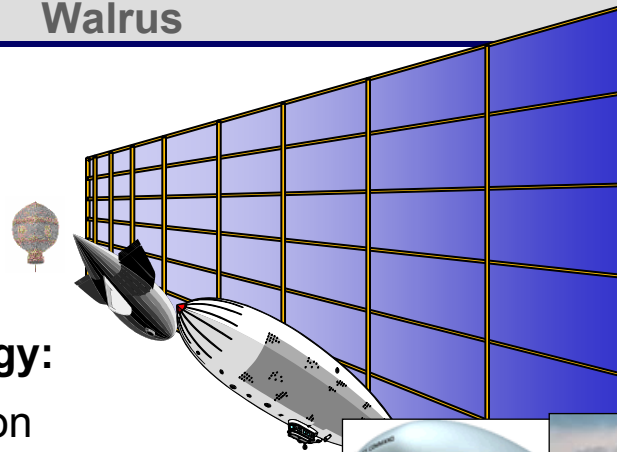
- Advanced fibers
- Automation
- Composite materials
- Turboshaft & ducted fans
- Hovercrafts
- Containerized shipping
- CFD
- Future Combat System

■ Heavier than air concept

■ Harvestable Breakthrough Technologies:

- Vacuum buoyancy compensators
 - +/- buoyancy control without ballast
- Static Ion Propulsion
- Propulsion - closed loop engine cycles (Brayton)
- Regenerative cycles

■ Need new ways to advance utility and minimize old problems (e.g. weather, re-ballasting needs, ground operations)





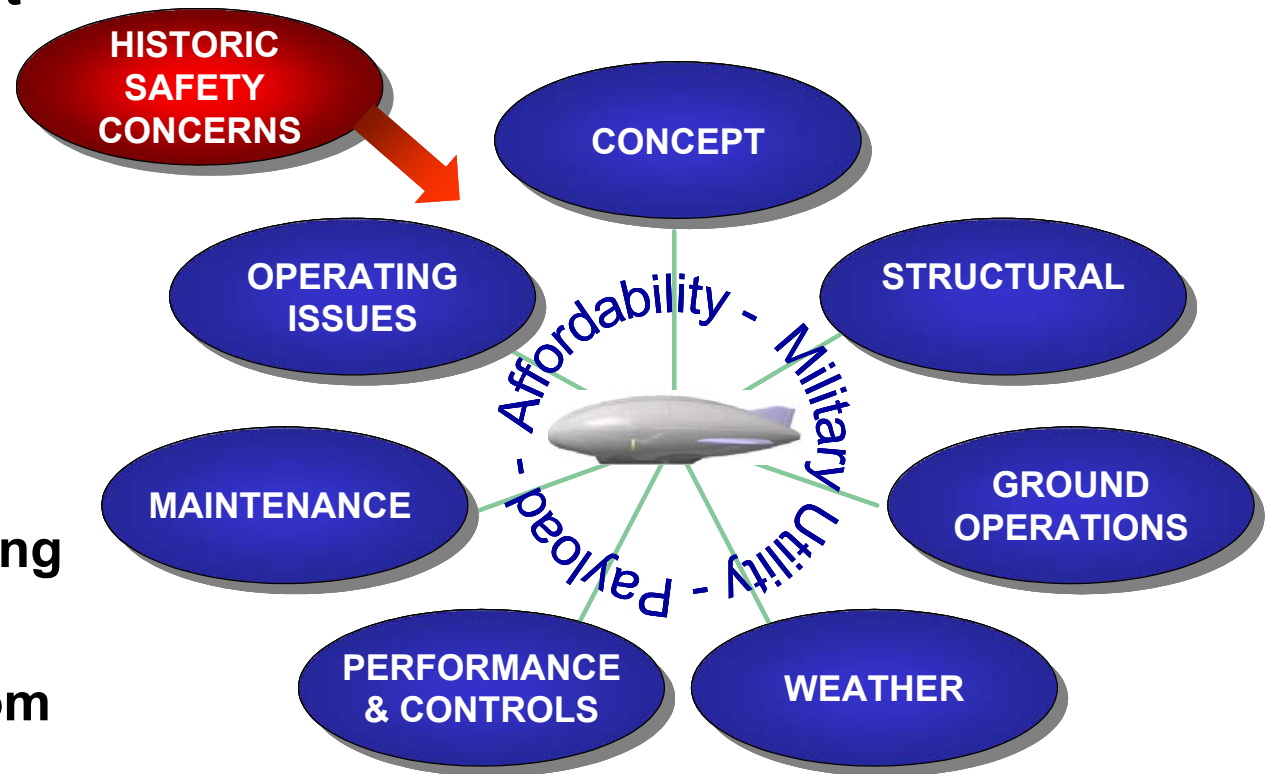
Critical Technologies

Think Outside the Box Continued

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- Buoyancy and Lift Control
- Envelope/Hull Materials
- Drag Reducing Technologies
- Propulsion Technologies
- Advanced Modeling
- Ground Handling
- Independence from Infrastructure





Military Service Involvement



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- **Significant Interest from all Service Branches**
- **Ongoing Requirements Process**
 - Meeting with AF, Army, Navy and Marine representatives
 - Assessing strategic importance and national mission needs to best determine where WALRUS fits
 - Memorandum of findings will be released at conclusion of process

Structured clear and auditable link between Walrus conceptual operating needs and technologies – defensible baseline



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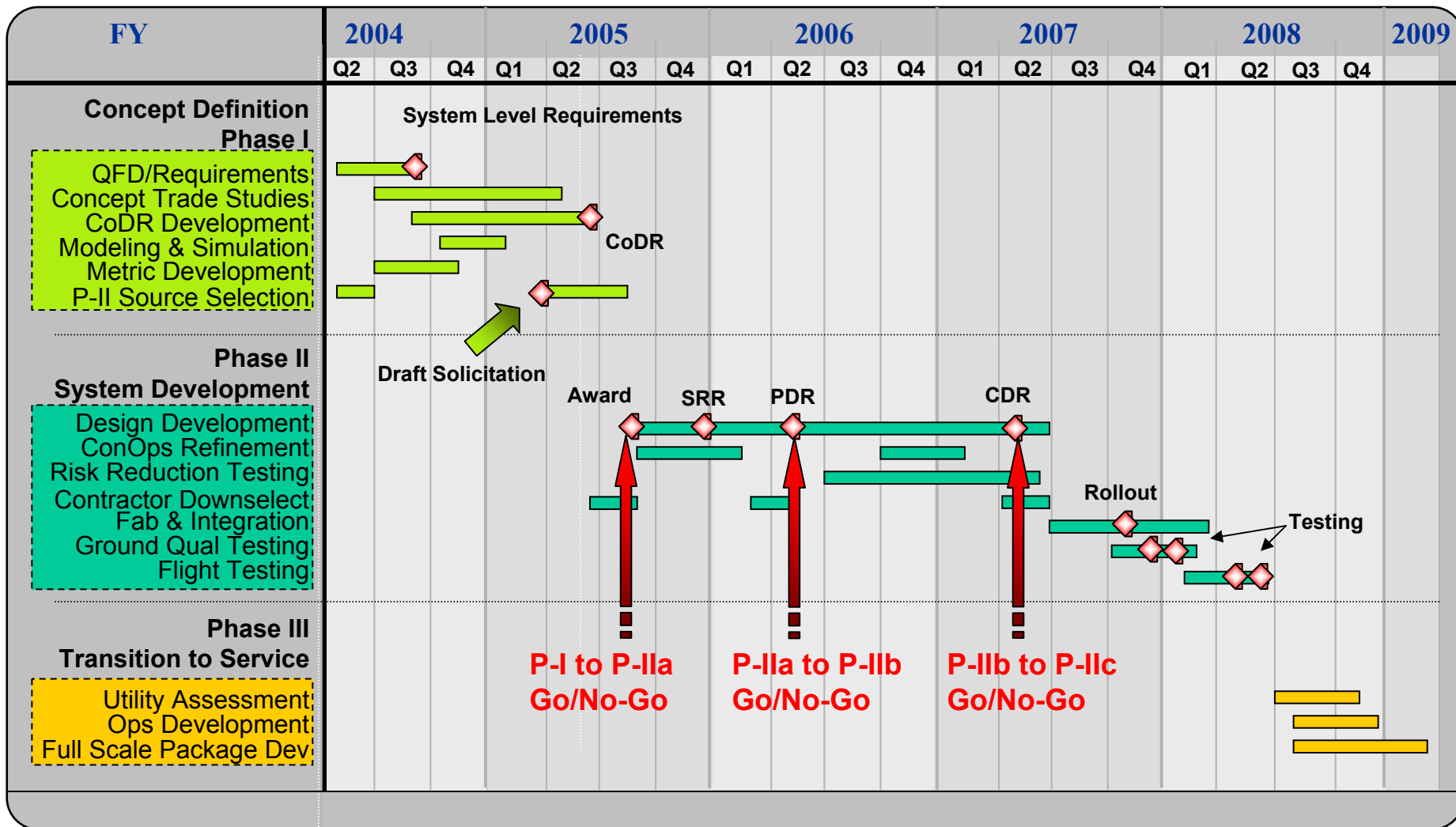
WALRUS Acquisition Strategy





WALRUS Program Plan

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Phase I Products

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- **Output of Trade Studies**
- **Preferred Conceptual Design**
- **Refined TDAP (Technology Roadmap)**
- **Identification of Critical Technologies**
- **Risk Reduction Testing on Enabling Technologies**
- **Phase II updated IMS**



Phase II Products

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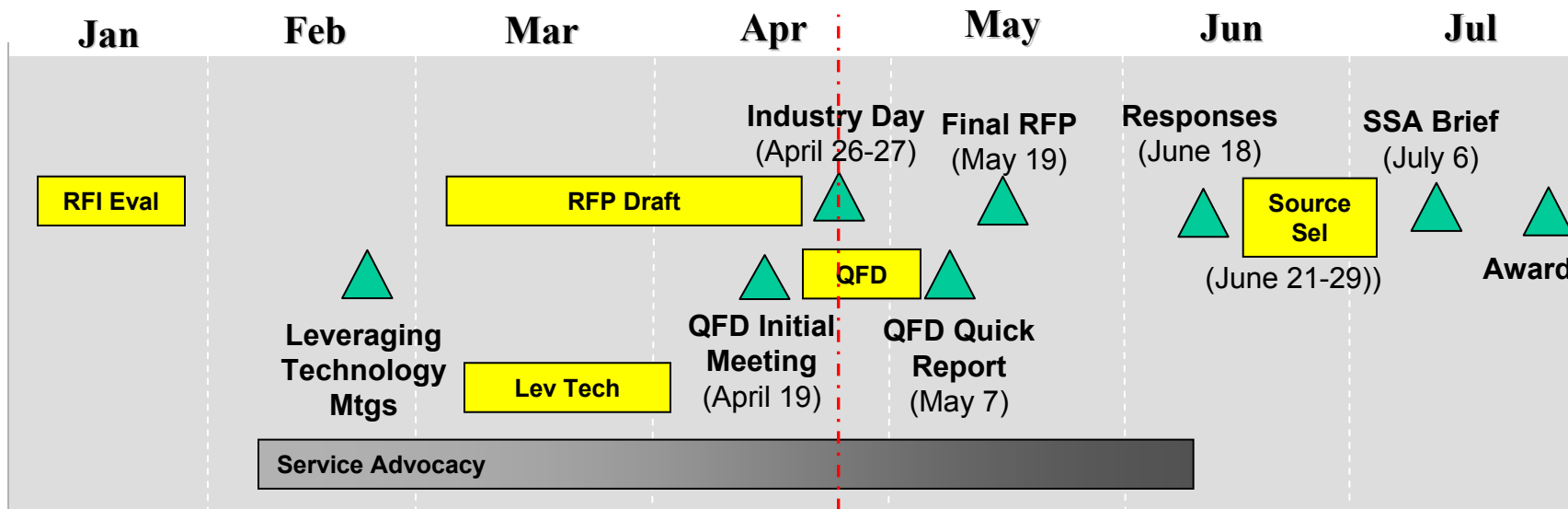


- **Preliminary Design**
- **Critical Design**
- **Significant Risk Reduction Testing, Technology Development**
- **Refined working TDAP (Technology Roadmap)**
- **Risk Reducing Technology and CONOPS Demonstration Vehicle (ATD)**
- **Demonstrations on the Scalability of Incorporated Technology**



Acquisition Schedule

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Solicitation Schedule

Draft Solicitation Release	22 April 2004
Solicitation Comments	5 May 2004
Final Solicitation Release	19 May 2004
Solicitation Responses Due	18 June 2004
Source Selection Complete	6 July 2004
Agreements Negotiations	6 - 29 July 2004

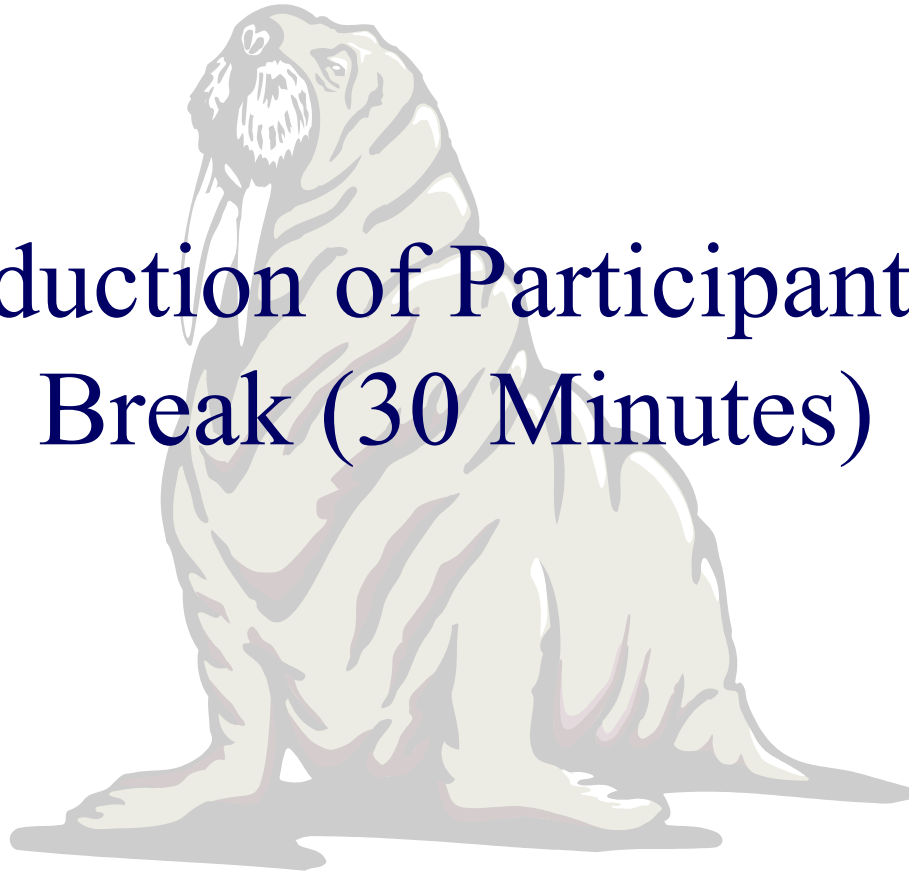


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Introduction of Participants and Break (30 Minutes)



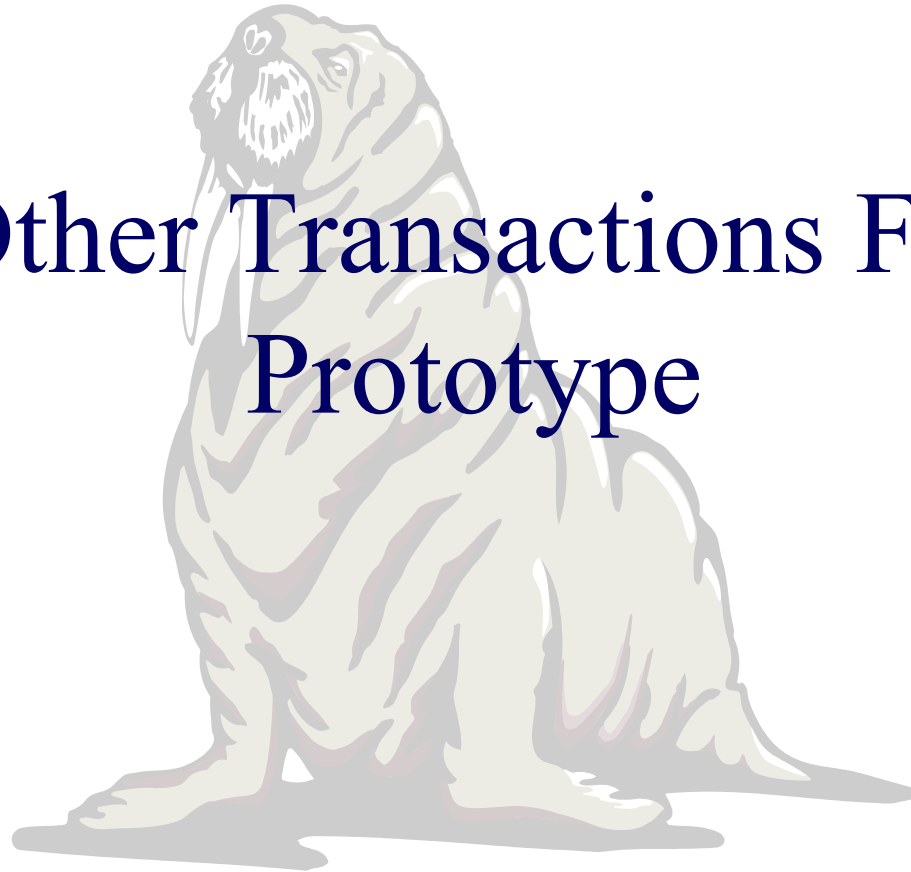


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Other Transactions For Prototype





Other Transactions (OT) for Prototypes Basic Authority

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- 10 U.S.C. 2371 Authority to enter into Other Transactions to carry out basic, applied, and advanced research projects
- Section 845 created additional authority to award Other Transactions for Prototypes
- Several Amendments
 - Non-traditional Contractor
 - Production Authority
 - GAO access for awards over \$5M
 - Authority extended through 2008



What is an OT?



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- Agreement Between Government and Performer
 - Relief from (many) Statutes, FAR and supplemental regs
 - Flexibility to use “best” practices
- Goal
 - Attract non-traditional contractors with “cutting edge technology”.
 - Break new ground with traditional defense performers in doing business a new way.



OT FOR PROTOTYPES, Cont'd



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- Common Sense laws still apply
 - Criminal laws (false claims/statements)
 - Federal fiscal laws
 - Laws of general applicability (e.g. Title VI, Civil Rights Act)
 - General laws for doing business in the US (e.g. environmental laws, import/export control)



OT Award Requirements



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- “there is at least one nontraditional defense contractor participating to a significant extent”
or
- If no nontraditional defense contractor,
 - “at least one third of the total cost of the prototype project is to be paid out of funds provided by parties to the transaction other than the Federal Government.”
or
 - The senior procurement official for the agency (Director CMO, Tim Arnold) justifies that use of an OT “provides for innovative business arrangements or structures that would not be feasible or appropriate under a contract.”



Non-traditional Contractor



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“Nontraditional”: An entity that has not, for a period of one year, entered into or performed:

- A contract subject to full CAS coverage

(See FAR part 31 & DFAR part 231)

or,

- A FAR-based contract in excess of \$500K
 - To carry out prototype projects or
 - To perform basic, applied or advanced research



OT FOR PROTOTYPES, Cont'd



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- Attributes
 - Based on commercial practices
 - Does not require use of CAS
 - No overstated specifications
 - Vision, Objectives
 - Promotes greater use of “off the shelf” components
 - Commercial practices
 - Open Architecture
 - Promotes Govt/Industry teams
 - “Real Time” decision making
 - Minimal documentation



OT FOR PROTOTYPES, Cont'd



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- Attributes
 - Changes
 - No Government directed unilateral changes
 - No claims for equitable adjustment caused by changes
 - Termination
 - No “Termination for Default”
 - No “Termination for Convenience”



OT FOR PROTOTYPES, Cont'd



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- Attributes
 - Costs
 - No mandatory cost principles or accounting standards
 - No certified cost and pricing data
 - Subcontracting
 - Government system not required
 - Flowdown of clauses not mandatory, except where specified



OT FOR PROTOTYPES, Cont'd



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- Attributes
 - Management Structure
 - Prime/subcontractor relationship not required
 - Sound business judgment with technical focus
 - Contracts/Legal/Program/Financial **Team**

Technical Emphasis



OT FOR PROTOTYPES, Cont'd



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Additional Resources

- www.acq.osd.mil/dp/dsps/ot/dspsot.htm
- OT for Prototypes Guide
- <http://clc.dau.mil/> [on-line training]
- <http://farsite.hill.af.mil/>
- Code of Federal Regulation 32 CFR, Section 3.1



Conclusion

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- Sound Business Judgment is an Absolute
- Successful Government/Contractor Team Extremely Important
- Other Transactions Allow the Flexibility for Successful Technical Accomplishment
- Establishment of a Win/Win Arrangement



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Program Solicitation Phase 1





Solicitation Overview



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- **Use Agreements Authority**
- **Responses include:**
 - Executive Summary
 - Technical Approach and Substantiation
 - Notional System Concept
 - Trade Study and Analysis Plan
 - Task Description Document (TDD)
 - Integrated Master Schedule
 - Technology Development and Assessment Plan (TDAP)
 - Management Plan
 - Program Team
 - Proposed Agreement with Attachments
 - Notional System Concept Sys Capability Doc.
 - Cost Response



Task Description Document (TDD)

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- **Detailed description of work which must be executed to accomplish Phase I**
- **Included as Article III of the offeror's proposed Agreement**
- **Structured in accordance with the offeror's Work Breakdown Structure (WBS)**
- **Can be modified to accommodate detailed technical changes (if there is no change in overall scope of the effort or cost impact)**
- **Changes must be approved in writing by the agreements officer**



Integrated Master Schedule (IMS)

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- **Tiered scheduling system that must correspond to the proposed WBS identified in the TDD**
- **Completed for Phase I and II to WBS Level 3 of the offeror's TDD**
- **Relates the specific detailed tasks and the amount of time expressed in calendar days necessary to achieve each significant functional accomplishment**
- **Contains:**
 - Proposed milestones/events
 - Key tasks for each milestone/event
 - Accomplishment criteria for each task



Technology Development and Assessment Plan (TDAP)

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- Identify the top level metrics, processes, and system level performance and CONOPS trades
- Identify the critical and enabling Technologies, Processes and System Attributes (TPSAs) that must be validated and/or demonstrated
- Purpose is for Gov. to examine a range of competing technologies that could enable the WALRUS system.
- The plan shall describe the offeror's process for identifying and evaluating competing technologies available from other government and industry R&D programs.



Source Selection

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- **Government will enter into more than one Agreement**
- **Selection decision based on an integrated assessment of specific areas**
- **Evaluation will strive for maximum quantitative objectivity**
- **Government may reject responses that are unrealistic**



Areas of Evaluation



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This is a technical competition for phase 1 to develop an affordable system with the Government. Proposal evaluation criteria will include:

- **Product Capability and Technical Approach**

- Trade Study and Analysis Plan
- Technical Assessment and Development Plan
- Notional System Concept

- **Management**

- Management Plan
- Innovative Business Practices
- Facilities
- Program Team
 - Key Personnel
 - Team's ability to execute the program
 - Breadth and depth of the proposed team
 - Management construct
 - Past Performance
 - Proposed Agreement Terms and condition

- **Cost**

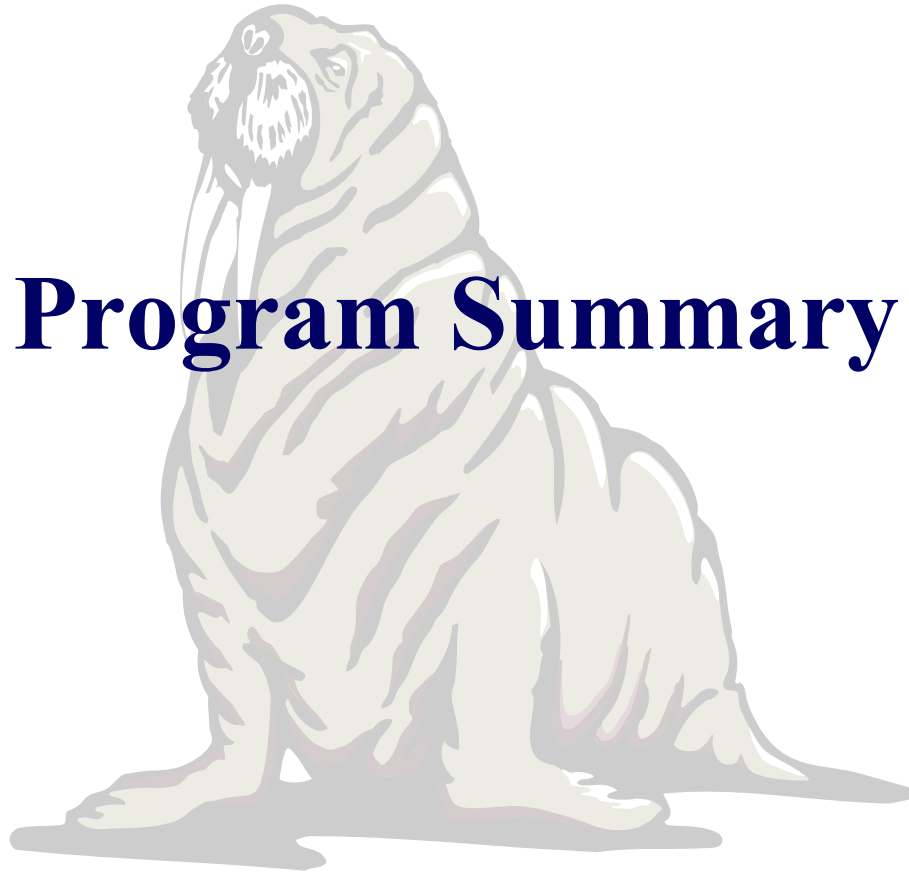


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Program Summary



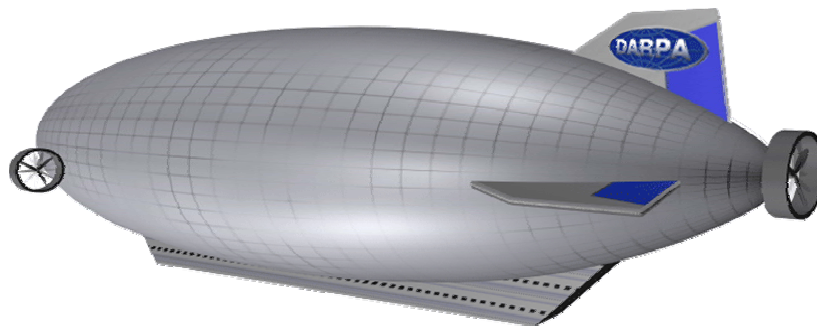


Summary



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Prove the feasibility and viability of the concept,
develop an objective air vehicle design and transition
the ATD vehicle to the services for military utility testing
and experimentation



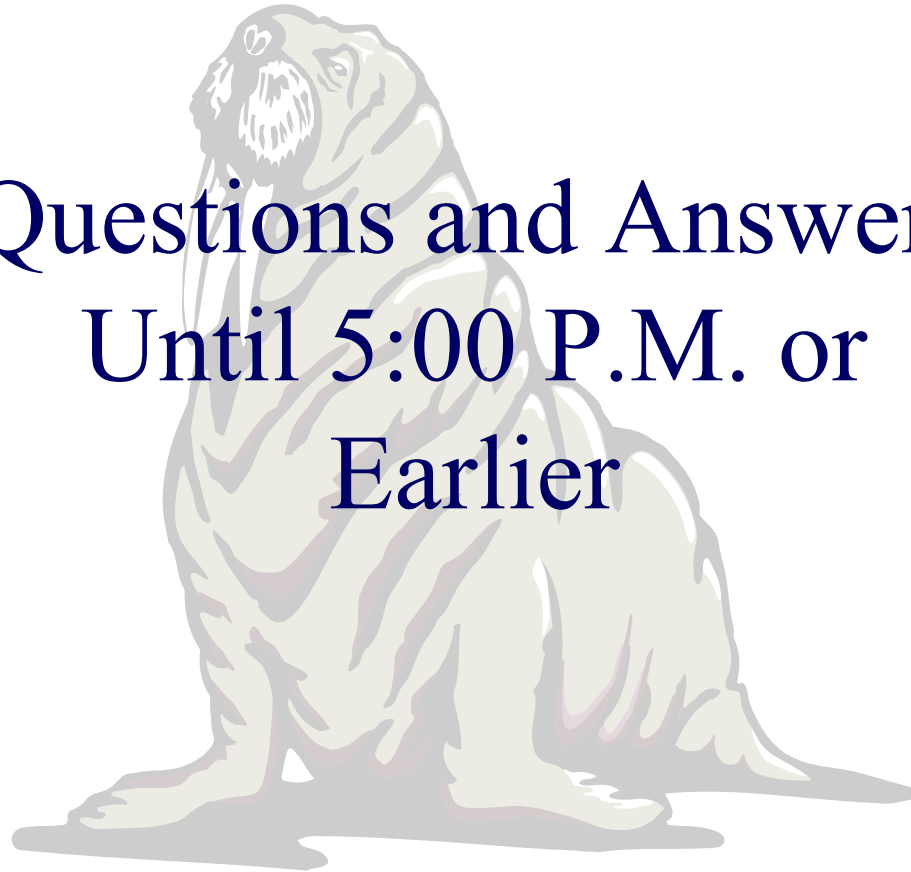


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Questions and Answers
Until 5:00 P.M. or
Earlier





Directions to Social Car Pool

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Directions:

Walk out of Lobby

Turn Right out of Front Doors

Walk along Fairfax Drive

After 1 Block Car Pool will be on your left across the street

